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A PARTIAL BIBLIOGRAPHY OF *CYPRINODON VARIEGATUS* (OSTEICHTHYES: CYPRINODONTIDAE)[1]

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ABSTRACT A partial bibliography of the sheepshead minnow *Cyprinodon variegatus* Lacépède, 1803, is presented. Scientific works related to systematics and general biology are listed along with references to recent work involving toxicological bioassays. An extensive search of the literature on parasites of *C. variegatus* was not conducted.

INTRODUCTION

Cyprinodon variegatus is a relatively abundant inhabitant of estuarine marshes from Massachusetts to South America. Because of its importance in the estuarine ecosystem and the ease with which it can be cultured, it has become an increasingly important organism for toxicological bioassays.

Sheepshead minnows have a protracted spawning season and will breed year-round in warm water, with a generation time of three to four months. They feed on both algal and animal material in nature and can be easily reared on brine shrimp, *Artemia salina*, in aquaria.

Most 19th century references listed relate to systematics or collection records of *C. variegatus*. A great deal of work was done on the general biology and ecology of this species from 1900 to 1965. Over the past fifteen years, however, the majority of work has documented responses of *C. variegatus* to environmental pollutants. Thus, it is one of the few organisms for which we have a good biological data base as well as an assessment of man's potential impact on the estuarine environment.

BIBLIOGRAPHY

Able, K. W. 1976. Cleaning behavior in the cyprinodontid fishes: *Fundulus majalis, Cyprinodon variegatus,* and *Lucania parva*. *Chesapeake Sci.* 17(1):35–39.

Allen, R. P. 1942. *The Roseate Spoonbill.* Res. Rep. No. 2, Nat. Audubon Soc., New York. 142 pp.

Anderson, J. W., J. M. Neff, B. A. Cox, H. E. Tatem & G. M. Hightower. 1974. Characteristics of dispersions and water-soluble extracts of crude and refined oils and their toxicity to estuarine crustaceans and fish. *Mar. Biol.* 27:75–88.

Arndt, R. G. 1973. Cleaning symbiosis in some Florida brackish water cyprinodonts. *Marine Aquarist* 4(3):5–13.

Ayres, W. O. 1842. Enumeration of the fishes of Brookhaven, Long Island, with remarks upon the species observed. *Bost. J. Nat. Hist.* 4(2):255-264.

Bahner, L. H., A. J. Wilson, Jr., J. M. Sheppard, J. M. Patrick, Jr., L. R. Goodman & G. E. Walsh. 1977. Kepone bioconcentration, accumulation, loss, and transfer through estuarine food chains. *Chesapeake Sci.* 18(3):299–308.

Baird, S. F. 1855. Report on the fishes observed on the coasts of New Jersey and Long Island during the summer of 1854. *Smithson. Inst. 9th Annu. Rep.* (1854):317–320.

_____. 1873. List of fishes collected at Woods Hole. *Rept. U.S. Fish Comm.* 1:823–827.

_____ & C. F. Girard. 1854. Descriptions of new species of fishes collected by the U.S. and Mexico Boundary Survey. *Proc. Acad. Nat. Sci. Phila.* 6(1853):387–390.

Banner, A. & M. Hyatt. 1973. Effects of noise on eggs and larvae of two estuarine fishes. *Trans. Am. Fish. Soc.* 102:134–136.

Bean. B. A. 1892. Fishes collected by William P. Seal in Chesapeake Bay, at Cape Charles City, Virginia, September 16 to October 3, 1890. *Proc. U.S. Nat. Mus.* 14:83–94.

_____ . 1905. Fishes of the Bahama Islands. Pp. 294–325 and pls. 52–61 in G. B. Shattuck (ed.), *The Bahama Islands.* Johns Hopkins Press, McMillan Co., N.Y.

Bean, T. H. 1880. Check list of duplicates of North American fishes distributed by the Smithsonian Institution in behalf of the United States National Museum 1877–80. *Proc. U.S. Nat. Mus.* 3:75–116.

_____. 1889. Report on the fishes observed in Great Egg Harbor Bay, New Jersey. *Bull. U.S. Fish. Comm.* 7: 129–154.

_____. 1902. The fishes of Long Island, with notes upon their distribution, common names, habits, and rate of growth. *N.Y. For., Fish, Game Comm. Annu. Rep.* 6(1901):373–478.

Bigelow, H. B. & W. C. Schroeder. 1953. Fishes of the Gulf of Maine. *U.S. Fish Wildl. Serv., Fish. Bull.* 53:1–577.

Bleeker, P. 1863. Famille des Cyprinodontoides. *Atl. Ichthyol.* 3:139.

Borthwick, P. W. & S. C. Schimmel. 1978. Toxicity of pentachlorophenol and related compounds to early life stages of selected estuarine animals. Pp. 141–146 in

[1] Contribution No. 179 from the Environmental Research Laboratory, Narragansett, RI.

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K. Ranga Rao (ed.), *Pentachlorophenol: Chemistry, Pharmacology, and Environmental Toxicology*. Plenum, New York.

Breder, C. M., Jr. 1929. *Field Book of Marine Fishes of the Atlantic Coast from Labrador to Texas*. G. P. Putnam's Sons, New York. 332 pp.

_____ . 1932. An annotated list of fishes from Lake Forsyth, Andros Island, Bahamas, with the descriptions of three new forms. *Am. Mus. Novit.* 551:1–8.

_____ . 1934. Ecology of an oceanic fresh-water lake, Andros Island, Bahamas, with special reference to its fishes. *Zoologica* 18(3):57–88.

_____ . 1959. Studies on social groupings in fishes. *Bull. Am. Mus. Nat. Hist.* 117(6):394–481; pls. 70–80.

_____ & P. Rasquin. 1951. A further note on protective behavior in fishes in reference to background. *Copeia* 1951(1):95–96.

Briggs, J. C. 1958. A list of Florida fishes and their distribution. *Bull. Fla. State Mus. Biol. Sci.* 2(8):223–318.

Briggs, P. T. & J. S. O'Connor. 1971. Comparison of shorezone fishes over naturally vegetated and sand-filled bottoms in Great South Bay. *N.Y. Fish Game J.* 18(1): 15–39.

Brinley, F. J. 1938. Eggs of fishes. *Tabulae Biol.* 16(1): 51–59.

Caldwell, D.K. 1966. Marine and freshwater fishes of Jamaica. *Bull. Inst. Jam. Sci. Ser.* 17. 120 pp.

Carr, A. F., Jr. & C. J. Goin. 1955. *Guide to the Reptiles, Amphibians, and Freshwater Fishes of Florida*. Univ. of Florida Press, Gainesville. 341 pp.

Chidester, F. E. 1916. A biological study of the more important of the fish enemies of the salt marsh mosquitoes. *Bull. N.J. Agr. Exp. Sta.* 300:1–16.

_____ . 1920. The behavior of *Fundulus heteroclitus* on the salt marshes of New Jersey. *Am. Nat.* 54:551–557.

Clymer, J. P. 1978. The distributions, trophic activities, and competitive interactions of three salt marsh killifishes (Pisces: Cyprinodontidae). Ph.D. dissertation, Lehigh University, Bethlehem, PA. 295 pp.

_____ . 1978. The distributions, trophic activities, and competitive interactions of three salt marsh killifish (Pisces: Cyprinodontidae). *Diss. Abstr. Intl. B Sci. Eng.* 39(3):1085.

Copeland, B. J. 1967. Environmental characteristics of hypersaline lagoons. *Publ. Inst. Mar. Sci. Univ. Tex.* 12: 207–218.

Coppage, D. L. 1971. Characterization of fish brain acetylcholinesterase with an automated pH stat for inhibition studies. *Bull. Environ. Contam. Toxicol.* 6(4):304–310.

_____ . 1972. Organophosphate pesticides: specific level of brain AchE inhibition related to death in sheepshead minnows. *Trans. Am. Fish. Soc.* 101:534–536.

_____ . 1977. Anticholinesterase action of pesticidal carbamates in the central nervous system of poisoned fishes. Pp. 93–102 in F. J. Vernberg (ed.), *Physiological Responses of Marine Biota to Pollutants*. Academic Press, New York.

_____ & E. Matthews. 1974. Short-term effects of organophosphate pesticides on cholinesterases of estuarine fishes and pink shrimp. *Bull. Environ. Contam. Toxicol.* 11(5): 483–488.

Corzillius, B. 1975. Kreuzungsanalyse an vier Arten der Gattung *Cyprinodon* (Cyprinodontidae, Pisces) - ein Beitrag zum Speziationsproblem. *Mitt. Hamb. Zool. Mus. Inst.* 72:229–240.

Couch, J. A. 1975. Histopathological effects of pesticides and related chemicals on the livers of fishes. Pp. 559–584 in W. E. Ribelin and G. Migaki (eds.), *The Pathology of Fishes*. Univ. of Wisconsin Press, Madison.

_____ , J. T. Winstead & L. R. Goodman. 1977. Kepone-induced scoliosis and its histological consequences in fish. *Science* 197:585–587.

_____ , _____ , D. J. Hansen & L. R. Goodman. 1979. Vertebral dysplasia in young fish exposed to the herbicide trifluralin. *J. Fish Diseases* 2(1):35–42.

Croker, R. A. & A. J. Wilson. 1966. Kinetics and effects of DDT in a tidal marsh ditch. *Trans. Am. Fish. Soc.* 94: 152–159.

Cuvier, Georges. 1817. Les Poissons. *Le Règne Animal Distribué d'après son Organization, pour servir de base à l'Histoire Naturelle des Animaux et d'Introduction a l'Anatomie Comparée*. 4 vols. Déterville, Paris. 1st edition. 2:104–351.

_____ . 1829. Les Poissons. *Le Règne Animal Distribué d'après son Organization, pour servir de base à l'Histoire Naturelle des Animaux et d'Introduction a l'Anatomie Comparée*. 5 vols. Déterville, Paris. 2nd edition. 2:122–406.

_____ & Achille Valenciennes. 1846. Des Poecilies, des Cyprinodons, des Fundules, des Hydrargyres et des Grundules. *Histoire naturelle des Poissons*. 22 Vols. 18: 1–505.

Dahlberg, M. D. 1975. *Guide to Coastal Fishes of Georgia and Nearby States*. Univ. of Georgia Press, Athens. 186 pp.

Darnell, R. M. 1958. Food habits of fishes and larger invertebrates of Lake Pontchartrain, Louisiana, an estuarine community. *Publ. Inst. Mar. Sci. Univ. Tex.* 5:354–416.

_____ . 1961. Trophic spectrum of an estuarine community, based on studies of Lake Pontchartrain, Louisiana. *Ecology* 42:553–568.

Dawson, Alden B. 1932. The reaction of the erythrocytes of vertebrates, especially fishes, to vital dyes. *Biol. Bull. (Woods Hole)* 63(1):48–72.

_____ . 1933. The relative numbers of immature erythrocytes in the circulating blood of several species of marine fishes. *Biol. Bull. (Woods Hole)* 64(1):33–43.

DeKay, James E. 1842. *Zoology of New York, or the New York Fauna*. Parts 1–6. W. & A. White and J. Visscher, Albany. 415 pp.

Dennis, E. A. & L. R. Penner. 1971. *Mesostephanus yedeae* sp. n. (Trematoda: Cyathocotylidae), its life history and descriptions of the developmental stages. *Occas. Pap. Univ. Conn. (Biol. Sci. Ser.)* 2(2):5–15.

DeSylva, D.P., F.A. Kalber, Jr. & C.N. Shuster. 1962. Fishes

and ecological conditions in the shore zone of the Delaware estuary, with notes on other species collected in deeper water. *Univ. Del. Mar. Lab., Inf. Ser. Publ.* 5. 164 pp.

deVlaming, V. L., A. Kuris & F. R. Parker, Jr. 1978. Seasonal variation of reproduction and lipid reserves in some subtropical cyprinodonts. *Trans. Am. Fish. Soc.* 107(3): 464–472.

_____ & M. Sage. 1972. Diurnal variation in fattening response to prolactin treatment in two cyprinodontid fishes, *Cyprinodon variegatus* and *Fundulus similis*. *Contrib. Mar. Sci.* 16:59–63.

_____, _____, C. B. Charlton & B. Tiegs. 1974. The effects of melatonin on lipid deposition in cyprinodontid fishes and on pituitary prolactin activity in *Fundulus similis*. *J. Comp. Physiol.* 94(4):309–320.

Drewry, G. E. 1967. Studies of relationships within the family Cyprinodontidae. Ph.D. dissertation, Univ. of Texas, Austin. 142 pp.

Eastman, R. F. 1969a. A comparison of the adaptive capacities of three macaque species. Ph.D. dissertation, Tulane Univ., New Orleans, LA. 70 pp.

_____. 1969b. A comparison of the adaptive capacities of three macaque species. *Diss. Abstr. Intl. B Sci. Eng.* 30B:4807.

Eddy, S. 1957. *How to Know the Freshwater Fishes. Pictured Keys for Identifying all of the Freshwater Fishes of the United States and also Including a Number of Marine Species which often enter Freshwater.* Wm. Brown Co., Dubuque, Iowa. 253 pp.

Eisler, R. 1971. Cadmium poisoning in *Fundulus heteroclitus* (Pisces: Cyprinodontidae) and other marine organisms. *J. Fish. Res. Board Can.* 28:1225–1234.

Evermann, B. W. 1893. A report upon investigations made in Texas in 1891. *Bull. U.S. Fish Comm.* 11(1891):61–90.

_____ & W. C. Kendall. 1892. The fishes of Texas and the Rio Grande Basin, considered chiefly with reference to their geographic distribution. *Bull. U.S. Fish Comm.* 12(1892):57–126.

Fanara, D. M. 1964. Notes on the biology of a salt marsh minnow, *Cyprinodon variegatus*. *N.J. Mosq. Exterm. Assoc.* 51:152–159.

Farr, J. A. 1978. The effect of methyl parathion on predator choice of two estuarine prey species. *Trans. Am. Fish. Soc.* 107(1):87–91.

Foster, N. R. 1967. Comparative studies on the biology of killifishes (Pisces, Cyprinodontidae). Ph.D. dissertation, Cornell Univ., Ithaca, NY. 369 pp.

_____. 1974. Cyprinodontidae – killifishes. Pp. 127–142 in A. J. Lippson and R. L. Moran (eds)., *Manual for Identification of Early Developmental Stages of Fishes of the Potomac River Estuary.* Power Plant Siting Program, Maryland Department Natural Resources, PPSP–MP–13.

Fowler, H. A. 1911. The fishes of Delaware. *Proc. Acad. Nat. Sci. Phila.* 63:3–16.

_____. 1913. Notes on the fishes of the Chincoteague region of Virginia. *Proc. Acad. Nat. Sci. Phila.* 65:61–65.

_____. 1916. Some features of ornamentation in the killifishes or toothed minnows. *Am. Nat.* 50:743–750.

_____. 1918. Fishes from the Middle Atlantic states and Virginia. *Occas. Pap. Mus. Zool. Univ. Mich.* 56:1–19.

_____. 1952. A list of the fishes of New Jersey, with offshore species. *Proc. Acad. Nat. Sci. Phila.* 104:89–151.

Fries, F. E. B. 1942. White pigmentary effectors (leucophores) in killifishes. *Proc. Nat. Acad. Sci. (USA)* 28:396–401.

Gardner, G. R. & P. P. Yevich. 1969. Studies on the blood morphology of three estuarine cyprinodontiform fishes. *J. Fish. Res. Board Can.* 26:433–447.

Garman, S. 1895. The cyprinodonts. *Mem. Mus. Comp. Zool.* 19(1):1–179.

Gill, T. N. 1861. Catalogue of the fishes of the eastern coast of North America from Greenland to Georgia. *Proc. Acad. Nat. Sci. Phila.* 1861(1862)13(Suppl.):1–63.

_____. 1873. Catalogue of the fishes of the eastern coast of North America. *Rep. U.S. Fish Comm.* 1:779–822.

Gilmore, R. G. 1977. Fishes of the Indian River lagoon and adjacent waters, Florida. *Bull. Fla. State Mus. Biol. Sci.* 22(3):101–148.

Girard, C. F. 1859. Notes upon various new genera and new species of fishes, in the museum of the Smithsonian Institution, and collected in connection with the United States and Mexican Boundary Survey: Major William Emory, Commissioner. *Proc. Acad. Nat. Sci. Phila.* 1858 (1859):167–171.

Goldfuss, G. A. 1820. *Handbuch der Zoologie.* Nurnberg, 2te Abt.:xxiv + 510 pp.

Goode, G. B. 1880. A preliminary catalogue of the fishes of the St. Johns River and the east coast of Florida, with descriptions of a new genus and three new species. *Proc. U.S. Nat. Mus.* 2:108–121.

_____ & T. H. Bean. 1880. Catalogue of a collection of fishes sent from Pensacola, Florida. *Proc. U.S. Nat. Mus.* 2:121–156.

_____ & _____. 1882. A list of the fishes recorded as occurring in the Gulf of Mexico. *Proc. U.S. Nat. Mus.* 5:234–240.

Goodman, L. R., D. J. Hansen, D. L. Coppage, J. C. Moore & E. Matthews. 1979. Diazinon: chronic toxicity to, and brain acetylcholinesterase inhibition in, the sheepshead minnow, *Cyprinodon variegatus*. *Trans. Am. Fish. Soc.* 108:479–488.

_____, _____, J. A. Couch & J. Forester. 1976. Effects of heptachlor and toxaphene on laboratory-reared embryos and fry of the sheepshead minnow. *Proc. 30th Annu. Conf. Southeast. Assoc. Game Fish Comm.*:192–202.

Gosline, W. A. 1949. The sensory canals of the head in some cyprinodont fishes, with particular reference to the genus *Fundulus*. *Occas. Pap. Mus. Zool. Univ. Mich.* 519:1–17.

Grant, G. C. 1962. Predation of bluefish on young Atlantic

menhaden in Indian River, Delaware. *Chesapeake Sci.* 3(3):45–47.

Greeley, J. R. 1939. Section II. Fishes and habitat conditions of the shore zone based upon July and August seining investigations. Pp. 72–91 in *A Biological Survey of the Salt Waters of Long Island, 1938.* Part 2. Suppl. 28th Annu. Rep. NY Conserv. Dep. (1938).

Greenfield, D. W. & R. B. Grinols. 1965. *Cyprinodon variegatus* on the Olympic Peninsula, Washington. *Copeia* 1965(1):115–116.

Guérin-Meneville, F. E. 1838. *Iconographie du Règne Animal de G. Cuvier (1829-44). I. Planches des Animaux Vertébrés.* Paris, IV, Poissons. 44 pp.

Gunter, G. 1945. Studies of marine fishes of Texas. *Publ. Inst. Mar. Sci. Univ. Tex.* 1(1):1–190.

_____ . 1950a. Distribution and abundance of fishes on the Aransas National Wildlife Refuge, with life history notes. *Publ. Inst. Mar. Sci. Univ. Tex.* 1(2):89–101.

_____ . 1950b. Correlation between temperature of water and size of marine fishes on the Atlantic and Gulf Coasts of the United States. *Copeia* 1950(4):298–304.

_____ . 1956. A revised list of the euryhaline fishes of North and Middle America. *Am. Midl. Nat.* 56:345–354.

_____ . 1958. Population studies of shallow water fishes of an outer beach in South Texas. *Publ. Inst. Mar. Sci. Univ. Tex.* 5:186–193.

Gunther, A. 1866. *Catalogue of the Fishes in the British Museum. Vol. VI – Catalogue of the Physostomi containing the Families Salmonidae, Percopsidae, Galaxidae, Mormyridae, Gymnarchidae, Esocidae, Umbridae, Scombresocidae, Cyprinodontidae in the Collection of the British Museum.* 8 Vols. Trustees Brit. Mus. London. 368 pp.

Hanek, G. & C. H. Fernando. 1972. Monogenetic trematodes from New Providence Island, Bahamas. *J. Parasitol.* 58(6):1117–1118.

Hansen, D. J. 1969. Avoidance of pesticides by untrained sheepshead minnows. *Trans. Am. Fish. Soc.* 98:426–429.

_____ . 1978a. Impact of pesticides on the marine environment. First American-Soviet symposium on the biological effects of pollution on marine organisms. *U.S. Environ. Prot. Agency Nat. Environ. Res. Cent. Ecol. Res. Ser.* EPA–600/9–78/007:126–137.

_____ . 1978b. Laboratory culture of sheepshead minnows (*Cyprinodon variegatus*). Bioassay procedures for Ocean Disposal Permit Program. Environmental Research Laboratory, Gulf Breeze, FL. *U.S. Environ. Prot. Agency Nat. Environ. Res. Cent. Ecol. Res. Ser.* EPA–600/9–78/010:107–108.

_____ , L. R. Goodman & A. J. Wilson, Jr. 1977. Kepone: Chronic effects on embryo, fry, juvenile, and adult sheepshead minnows (*Cyprinodon variegatus*). *Chesapeake Sci.* 18(2):227–232.

_____ , D. R. Nimmo, S. C. Schimmel, G. E. Walsh & A. J. Wilson, Jr. 1977. Effects of kepone on estuarine organisms. Pp. 20–30 in *Recent Advances in Fish Toxicology, a Symposium.* U.S. Environmental Protection Agency, Cincinnati, OH. EPA–600/3–77/085.

_____ & P. R. Parrish. 1977. Suitability of sheepshead minnows (*Cyprinodon variegatus*) for life-cycle toxicity tests. Pp. 117–126 in F. L. Mayer & J. L. Hamelink (eds.), *Aquatic Toxicology and Hazard Evaluation.* ASTM STP 634, Amer. Soc. Testing & Materials.

_____ , _____ , S. C. Schimmel & L. R. Goodman. 1978. Life-cycle toxicity test using sheepshead minnows (*Cyprinodon variegatus*). Bioassay Procedures for Ocean Disposal Permit Program. Environmental Research Laboratory, Gulf Breeze, FL. *U.S. Environ. Prot. Agency Nat. Environ. Res. Cent. Ecol. Res. Ser.* EPA–600/9–78/010:109–117.

_____ & S. C. Schimmel. 1975. Entire life-cycle bioassay using sheepshead minnows (*Cyprinodon variegatus*). Pp. 26904–26905 in *Proposed EPA Pesticide Guidelines for Programs Registering Pesticides.* U.S. Federal Register 40(123).

_____ & _____ . 1976. Chronic bioassay using sheepshead minnows (*Cyprinodon variegatus*). Bioassay Procedures for the Ocean Disposal Permit Program. Environmental Research Laboratory, Gulf Breeze, FL. *U.S. Environ. Prot. Agency Nat. Environ. Res. Cent. Ecol. Res. Ser.* EPA–600/9–76/010:69–80.

_____ , _____ & J. Forester. 1973. Arochlor 1254 in eggs of sheepshead minnows: effect on fertilization success and survival of embryos and fry. *Proc. 27th Annu. Conf. Southeast. Assoc. Game Fish Comm.*:420–426.

_____ , _____ & _____. 1975. Effects of Arochlor 1016 on embryos, fry, juveniles, and adults of sheepshead minnows (*Cyprinodon variegatus*). *Trans. Am. Fish. Soc.* 104(3):584–588.

_____ , _____ & _____ . 1977. Endrin: Effects on the entire life cycle of a saltwater fish *Cyprinodon variegatus*. *J. Toxicol. Environ. Health* 3:721–733.

_____ , _____ & E. Matthews. 1974. Avoidance of Arochlor 1254 by shrimp and fishes. *Bull. Environ. Contam. Toxicol.* 12(2):253–256.

_____ , A. J. Wilson, D. R. Nimmo, S. C. Schimmel, L. H. Bahner & R. Huggett. 1976. Kepone: Hazard to aquatic organisms. *Science* 193:528.

Harb, J. M. 1969. Comparative fine structure of the acidophil cell of the pseudobranch and gill of three teleosts. Ph.D. dissertation, Tulane University, New Orleans, LA. 171 pp.

_____ . 1971. Comparative fine structure of the acidophil cell of the pseudobranch and gill of three teleosts. *Diss. Abstr. Intl. B Sci. Eng.* 32B:3712.

_____ & D. E. Copeland. 1974. Helical form cristae in the mitochondria of the pseudobranch of *Cyprinodon variegatus* adapted to conditions of constant light and darkness. *J. Cell Biol.* 62(3):886–889.

Hardy, J. D., Jr. 1978. *Development of Fishes of the Mid-Atlantic Bight: An Atlas of Egg, Larval and Juvenile*

Stages. Vol. II. Anguillidae through Syngnathidae. U.S. Fish and Wildlife Service, Biological Sciences Program, U.S. Govt. Printing Office, Washington, D.C. 458 pp.

_____ & L. L. Hudson. 1975. A key to the eggs of cyprinodontid fish of the Chesapeake Bay region. Univ. Md. Nat. Resour. Inst., Chesapeake Biol. Lab. Ref. 75–9. 6 pp.

Harrington, R. W., Jr. 1958. Morphometry and ecology of small tarpon, *Megalops atlantica* Valenciennes from transitional stage through onset of scale formation. *Copeia* 1958(1):1–10.

_____ & W. L. Bidlingmayer. 1958. Effects of dieldrin on fishes and invertebrates of a salt marsh. *J. Wildl. Manage.* 22(1):76–82.

_____ & E. S. Harrington. 1961. Food selection among fishes invading a high subtropical salt marsh: from onset of flooding through the progress of a mosquito brood. *Ecology* 42(4):646–666.

Henshall, J. A. 1891. Report upon a collection of fishes made in southern Florida. *Bull. U.S. Fish Comm.* 9: 371–389.

Hildebrand, S. F. 1918. Notes on the life history of the minnows, *Gambusia affinis* and *Cyprinodon variegatus*. *Rept. U.S. Comm. Fish.* 1917. Append. 6. 15 pp.

_____ . 1919. Fishes in relation to mosquito control in ponds. *Rept. U.S. Comm. Fish.* 1918. Append. 9. 15 pp.

_____ & W. C. Schroeder. 1928. Fishes of Chesapeake Bay. *Bull. U.S. Bur. Fish.* 53(pt. 1):1–388.

Hoedman, J. J. 1954. *Aquariumbibliotheek (Aquariumvissen encyclopoedie).* Vitgoverij de Bezige Bij, Amsterdam. 527 pp.

_____ . 1954–56. *Aquariumvissen encyclopoedie.* Bd. 1, Amsterdam (1954). Bd. 2 (Nieuwe importen), Amsterdam (1956). 738 pp.

_____ . 1958. The frontal scalation pattern in some groups of tooth carps (Pisces: Cyprinodontiformes). *Bull. Aquat. Biol.* 1(3):23–28.

Hoese, H. D. 1958. A partially annotated checklist of the marine fishes of Texas. *Publ. Inst. Mar. Sci. Univ. Tex.* 5:312–352.

Holcik, J. 1970. Standing crop, abundance, production and some ecological aspects of fish populations in some inland waters of Cuba. *Vestn. Cesk. Spol. Zool.* 34: 184–201.

Holland, H. T. 1967. Physiological effects of pesticides. *U.S. Fish Wildl. Serv. Circ.* 260:11–12.

_____ & D. L. Coppage. 1970. Sensitivity to pesticides in three generations of sheepshead minnows. *Bull. Environ. Contam. Toxicol.* 5(4):362–367.

_____ , _____ & P. A. Butler. 1966. Increased sensitivity to pesticides in sheepshead minnows. *Trans. Am. Fish. Soc.* 95(1):110–112.

_____ , _____ & _____ . 1967. Use of fish brain acetylcholinesterase to monitor pollution by organophosphorus pesticides. *Bull. Environ. Contam. Toxicol.* 2(3):156–162.

Hubbs, C. 1957. Distribution patterns of Texas fresh-water fishes. *Southwest. Nat.* 2:89–104.

_____ & G. E. Drewry. 1959. Survival of F_1 hybrids between cyprinodont fishes, with a discussion on the correlation between hybridization and phylogenetic relationship. *Publ. Inst. Mar. Sci. Univ. Tex.* 6:81–91.

_____ & _____ . 1962. Artificial hybridization of *Crenichthys baileyi* with related cyprinodont fishes. *Tex. J. Sci.* 14(1):107–110.

_____ , T. Lucier, G. P. Garrett, R. J. Edwards, S. M. Dean, E. Marsh & D. Belk. 1978. Survival and abundance of introduced fishes near San Antonio, Texas. *Tex. J. Sci.* 30(4):369–376.

Hubbs, C. L. 1926. Studies of fishes in the order Cyprinodontes. VI. Material for a revision of the American genera and species. *Misc. Publ. Mus. Zool. Univ. Mich.* 16:3–86.

_____ . 1936. Fishes of the Yucatan Peninsula. *Carnegie Inst. Wash. Publ.* 457:157–287.

_____ & R. R. Miller. 1942. Studies of the fishes of the order Cyprinodontes. XVIII. *Cyprinodon laciniatus*, new species, from the Bahamas. *Occas. Pap. Mus. Zool. Univ. Mich.* 458:1–11.

Hudson, L. L. & J. D. Hardy, Jr. 1975. Descriptions of the early larvae of Cyprinodontid fishes of the Chesapeake Bay region with a key to their identification. Univ. Md. Nat. Resour. Inst., Chesapeake Biol. Lab. Ref. 75–4. 12 pp.

Huffman, D. G. & W. L. Bullock. 1973. *Capillaria cyprinodonticola* sp. n. (Nematoda: Trichinellidae) from the livers of cyprinodontiform fishes of the Florida keys. *J. Parasitol.* 59(2):260–263.

Huner, J. V. 1968. Use of fintrol-5 to control undesirable fishes in shrimp-oyster ponds. *Proc. La. Acad. Sci.* 31:58–61.

Itzkowitz, M. 1970. The effects of inter- and intraspecific intruders on the reproductive behavior of *Cyprinodon variegatus* (Pisces: Cyprinodontidae). Ph.D. dissertation, Univ. of Maryland, College Park. 135 pp.

_____ . 1971. The effects of inter- and intraspecific intruders on the reproductive behavior of *Cyprinodon variegatus* (Pisces: Cyprinodontidae). *Diss. Abstr.* 32(3):1922B.

_____ 1974. The effects of other fish on the reproductive behaviour of the male *Cyprinodon variegatus* (Pisces: Cyprinodontidae). *Behaviour* 48:1–22.

Jordan, David S. 1878. Notes on a collection of fishes from the Rio Grande at Brownsville, Texas. *Bull. U.S. Geol. Surv.* 4:397–406, 663–667.

_____ . 1884. List of fishes collected at Key West, Florida, with notes and descriptions. *Proc. U.S. Nat. Mus.* 7: 103–150.

_____ . 1886. Notes on fishes collected at Beaufort, North Carolina, with a revised list of the species known from that locality. *Proc. U.S. Nat. Mus.* 9:25–30.

_____ . 1887. A catalogue of the fishes known to inhabit the water of North America, north of the Tropic of Cancer, with notes on the species discovered in 1883 and 1884. *Ann. Rep. U.S. Fish Comm.* (1885) part XIII:789–973.

_____ & C. H. Eigenmann. 1887. Notes on a collection of fishes sent by Mr. Charles C. Leslie from Charleston, South Carolina. *Proc. U.S. Nat. Mus.* 10:269–270.

_____ & Charles H. Gilbert. 1879. Notes on the fishes of Beaufort Harbor, North Carolina. *Proc. U.S. Nat. Mus.* 1:365–388.

_____ & _____ . 1882a. Synopsis of the fishes of North America. *Bull. U.S. Nat. Mus.* 16:570–576.

_____ & _____ . 1882b. Notes on fishes observed about Pensacola, Florida, and Galveston, Texas, with description of new species. *Proc. U.S. Nat. Mus.* 5:241–307.

Joseph, E. B. & R. W. Yerger. 1956. The fishes of Alligator Harbor, Florida, with notes on their natural history. *Fla. State U. Stud.* No. 22, pp. 111–156.

Kaill, W. M. 1967. Ecology and behavior of the cyprinodontid fishes *Jordanella floridae* Goode and Bean, *Floridichthys carpio* (Gunther) and *Cyprinodon variegatus* Lacépède. Ph.D. dissertation, Cornell Univ., Ithaca, NY. 172 pp.

_____ . 1968. Ecology and behavior of the cyprinodontid fishes *Jordanella floridae* Goode and Bean, *Floridichthys carpio* (Gunther) and *Cyprinodon variegatus* Lacépède. *Diss. Abstr.* 28B:3927–3928.

Karnaky, K. J., Jr. 1970. The chloride cell of *Cyprinodon variegatus*: cytochemical studies on a cell specialized for electrolyte transport. M.S. thesis, Rice Univ., Houston, Texas. 62 pp.

_____ . 1972a. Osmoregulation in euryhaline teleosts: cytological and biochemical studies on the branchial epithelium of *Cyprinodon variegatus*. Ph.D. dissertation, Rice Univ., Houston, TX. 154 pp.

_____ . 1972b. Osmoregulation in euryhaline teleosts: cytological and biochemical studies on the branchial epithelium of *Cyprinodon variegatus*. *Diss. Abstr.* 33B:1352–1353.

_____ , S. A. Ernst & C. W. Philpott. 1976. Teleost chloride cell: I. Response of pupfish *Cyprinodon variegatus* gill Na, K-ATPase and chloride cell fine structure to various high salinity environments. *J. Cell Biol.* 70:144–156.

Kennedy, S. E. 1977. Life history of the Leon Springs pupfish, *Cyprinodon bovinus*. *Copeia* 1977(1):93–103.

Kilby, J. D. 1955. The fishes of two Gulf coastal marsh areas of Florida. *Tulane Stud. Zool.* 2(8):175–247.

Kuntz, A. 1916. Notes on the embryology and larval development of five species of teleostean fishes. *Bull. U.S. Bur. Fish.* 34:409–429.

_____ & L. Radcliffe. 1917. Notes on the embryology and larval development of twelve teleostean fishes. *Bull. U.S. Bur. Fish.* 35(1915–16):87–134.

Kushlan, J. A. 1976. Environmental stability and fish community diversity. *Ecology* 57:821–825.

Lacépède, B. 1803. *Histoire Naturelle des Poissons, V.* Adolphe Deros et Comp., Bruxelles. 803 pp.

Lawler, A. R. 1967. *Oodinium cyprinodontum* n. sp., a parasitic dinoflagellate on gills of Cyprinodontidae of Virginia. *Chesapeake Sci.* 8(1):67–68.

_____ .1968. Occurrence of the parasitic dinoflagellate *Oodinium cyprinodontum* Lawler, 1967, in North Carolina. *Va. J. Sci.* 19:240.

_____ . 1978. A partial checklist of actual and potential parasites of some South Carolina estuarine and marine fauna. Pp. 309–337 in R. G. Zingmark (ed.), *An Annotated Checklist of the Biota of the Coastal Zone of South Carolina*. Univ. of South Carolina Press.

Leigh, W. H. 1959. The fish, *Cyprinodon*, as the intermediate host for a new species of the trematode genus *Ascocotyle*. *J. Parasitol.* 45(Suppl.):23.

Leitholf, E. 1918. The variegated minnow. *Aquatic Life.* 3(3):69–70.

Lemhoff, H. M., R. Schroeder & W. H. Leigh. 1960. The collagen-like nature of metacercarial cysts of a new species of *Ascocotyle*. *J. Parasitol.* 46(Suppl.):36.

Liu, R. K. 1969. The comparative behavior of allopatric species (Teleostei-Cyprinodontidae: Cyprinodon). Ph.D. dissertation, Univ. of California, Los Angeles. 197 pp.

Lom, J. & A. R. Lawler, 1971. Mode of attachment and relation to host tissue in two dinoflagellates from gills of cyprinodonts of Virginia. *J. Protozool.* 18(Suppl.): 43–44.

_____ & _____ . 1973. An ultrastructural study on the mode of attachment in dinoflagellates invading gills of Cyprinodontidae. *Protistologica* 9(2):283–309.

Lönnberg, Einar. 1894. List of fishes observed and collected in South Florida. *Öv. K. Vet.-Akad. Forhandl.* 51(3): 109–131.

Lumsden, R. D. 1963. A new heterophyid trematode of the *Ascocotyle* complex of species encysted in poeciliid and cyprinodont fishes of southeastern Texas. *Proc. Helminthol. Soc. Wash.* 30:293–296.

McLane, W. M. 1955. The fishes of the St. Johns River system. Ph.D. dissertation, Univ. of Florida, Gainesville. 361 pp.

Mansueti, R. J. 1957. Revised key to Maryland freshwater fishes. Maryland Bd. of Nat. Resour., Dept. Res. Educ., Chesapeake Biol. Lab. Ref. 57–22. 26 pp.

Martin, F. D. 1968a. Intraspecific variation in osmotic abilities of *Cyprinodon variegatus* Lacépède from the Texas coast. *Ecology* 49(6):1186–1188.

_____ . 1968b. Some factors influencing penetration into rivers by fishes of the genus *Cyprinodon*. Ph.D. dissertation, Univ. of Texas, Austin. 92 pp.

_____ . 1969. Some factors influencing penetration into rivers by fishes of the genus *Cyprinodon*. *Diss. Abstr.* 29B:3974–3975.

_____ . 1970. Feeding habits of *Cyprinodon variegatus* (Cyprinodontidae) from the Texas coast. *Southwest Nat.* 14:368–369.

_____ . 1972. Factors influencing local distribution of *Cyprinodon variegatus* (Pisces: Cyprinodontidae). *Trans. Am. Fish. Soc.* 101:89–93.

Mansueti, W. H. 1954. Marine fishes in fresh and brackish waters of Virginia rivers. *Ecology* 35:75–78.

_____. 1958. A check list of fishes of the Virginia waters of Chesapeake Bay and its tidal tributaries. *Virginia Fisheries Lab. Contrib.* No. 60, 1955–1956. 14 pp.

Meder, E. 1957. Tropische Fische. *Z. f. Vivaristik.* 3: 119–123.

Miller, G. L. & S. C. Jorgenson. 1973. Meristic characters of some marine fishes of the western Atlantic Ocean. *Fish. Bull.* 71(1):301–312.

Miller, R. R. 1962. Taxonomic status of *Cyprinodon baconi*, a killifish from Andros Island, Bahamas. *Copeia* 1962(4): 836–837.

Mitchill, S. L. 1815. The fishes of New York, described and arranged. *Trans. Lit. Phil. Soc., NY* 1(5):355–492.

Moore, G. A. 1957. Fishes. Pp. 31–210 in W. F. Blair, A. P. Blair, P. Brodkorb, F. R. Cagle & G. A. Moore (eds.), *Vertebrates of the United States.* McGraw-Hill, New York.

Myers, G. S. 1935. An annotated list of the cyprinodont fishes of Hispaniola, with descriptions of two new species. *Zoologica* 10(3):301–316.

Newman, H. H. 1907. Spawning behavior and sexual dimorphism in *Fundulus heteroclitus* and allied fish. *Biol. Bull. (Woods Hole)* 12:314–349.

_____. 1914. Modes of inheritance in teleost hybrids. *J. Exp. Zool.* 16(4):447–499.

_____. 1915. Development and heredity in heterogenic teleost hybrids. *J. Exp. Zool.* 18(4):511–576.

Nichols, J. T. & C. M. Breder, Jr. 1926. The marine fishes of New York and southern New England. *Zoologica* 9(1):1–192.

Nigrelli, R. F. & G. M. Smith. 1938. Tissue responses of *Cyprinodon variegatus* to the myxosporidian parasite *Myxobolus listoni* Gurley. *Zoologica* 23:195–202.

Nishio, S. 1926. Über die Otolithen und ihre Entstehung. *Arch. Ohren-, Nasen-, Kehlkopfheilkd.* 115(1):19–63.

Odum, H. T. & D. K. Caldwell. 1955. Fish respiration in the natural oxygen gradient of an anaerobic spring in Florida. *Copeia* 1955(2):104–106.

Parrish, P. R., G. H. Cook & J. M. Patrick, Jr. 1974. Hexachlorobenzene: effects on several estuarine animals. *Proc. 28th Annu. Conf. Southeast. Assoc. Game Fish Comm.*: 179–187.

_____, J. A. Couch, J. Forester, J. M. Patrick, Jr. & G. H. Cook. 1973. Dieldrin: effects on several estuarine organisms. *Proc. 27th Annu. Conf. Southeast. Assoc. Game Fish Comm.*:427–434.

_____, E. E. Dyar, J. M. Enos & W. G. Wilson. 1978. Chronic toxicity of chlordane, trifluralin, and pentachlorophenol to sheepshead minnows (*Cyprinodon variegatus*). Environmental Research Laboratory, Gulf Breeze, FL. *U.S. Environ. Prot. Agency Nat. Environ. Res. Cent., Ecol. Res. Ser.* EPA–600/3–78/010. 53 pp.

_____, _____, M. A. Lindberg, C. M. Shanika & J. M. Enos. 1977. Chronic toxicity of methoxychlor, malathion and carbofuran to sheepshead minnows (*Cyprinodon variegatus*). *U.S. Environ. Prot. Agency Nat. Environ. Res. Cent., Ecol. Res. Ser.* EPA–600/3–77/059. 36 pp.

_____, S. C. Schimmel, D. J. Hansen, J. M Patrick, Jr. & J. Forester. 1976. Chlordane: effects on several estuarine organisms. *J. Toxicol. Environ. Health.* 1:485–494.

Pearse, A. S. & G. Gunter. 1957. Salinity. Pp. 129–158 in J. W. Hedgpeth (ed.), *Treatise on Marine Ecology and Paleoecology.* Geological Society of America 67, Vol. 1.

Poey, F. 1860. XLIX. Poissons de Cuba, especes nouvelles. Pp. 115–356 in *Memorias Sobre la Historia Natural de la Island de Cuba*, 2, 1858–61.

_____. 1861. L. Conspectus piscium cubensium. Pp. 357–404 in *Memorias Sobre la Historia Natural de la Isla de Cuba*, 2, 1858–61.

_____. 1865–67. *Repertoria Fitico-natural de la Isla de Cuba.* 2 vol., Habana, 1865–67, 1:1–412, 2:1–468.

_____. 1875. Enumeratio piscium cubensium. *An. Soc. esp. Hist. Nat.* 4:75–161.

Radcliffe, L. 1915. Fishes destructive to the eggs and larvae of mosquitoes. *U.S. Bur. Commer. Fish. Econ. Circ.* 17. 19 pp.

Raney, E. C., R. H. Backus, R. W. Crawford & C. R. Robins. 1953. Reproductive behavior in *Cyprinodon variegatus* Lacépède, in Florida. *Zoologica* 38(6):97–104.

Reid, G. K., Jr. 1954. An ecological study of the Gulf of Mexico fishes in the vicinity of Cedar Key, Florida. *Bull. Mar. Sci. Gulf Caribb.* 4(1):1–94.

Renfro, W. C. 1960. Salinity relations of some fishes in the Aransas River, Texas. *Tulane Stud. Zool.* 8:83–91.

Richardson, J. 1837. Report on North American Zoology. *Rep. Br. Assoc. Advmt. Sci., 6th Meet.*:121.

Rosen, D. E. & R. M. Bailey. 1963. The poeciliid fishes (Cyprinodontiformes), their structure, zoogeography, and systematics. *Bull. Am. Mus. Nat. Hist.* 126(1):1–176.

Schimmel, S. C. & D. J. Hansen. 1974. Sheepshead minnow (*Cyprinodon variegatus*): an estuarine fish suitable for chronic (entire life-cycle) bioassays. *Proc. 28th Annu. Conf. Southeast. Assoc. Game Fish Comm.*:392–398.

_____, _____ & J. Forester. 1974a. Effects of Arochlor 1254 on laboratory-reared embryos and fry of *Cyprinodon variegatus*. *The ASB Bulletin* 21(2):81.

_____, _____ & _____. 1974b. Effects of Arochlor 1254 on laboratory-reared embryos and fry of sheepshead minnows (*Cyprinodon variegatus*). *Trans. Am. Fish. Soc.* 103(3):582–586.

_____, P. R. Parrish, D. J. Hansen, J. M. Patrick, Jr. & J. Forester. 1974. Endrin: effects on several estuarine organisms. *Proc. 28th Annu. Conf. Southeast. Assoc. Game Fish Comm.*:187–194.

_____, J. M. Patrick, Jr. & J. Forester. 1976. Heptachlor: toxicity to and uptake by several estuarine organisms. *J. Toxicol. Environ. Health.* 1:955–965.

_____, _____ & _____. 1977a. Uptake and toxicity of toxaphene in several estuarine organisms. *Arch.*

Environ. Contam. Toxicol. 5:353–367.

_____, _____ & _____. 1977b. Toxicity and bioconcentration of BHC and lindane in selected estuarine animals. *Arch. Environ. Contam. Toxicol.* 6:355–363.

_____ & A. J. Wilson, Jr. 1977. Acute toxicity of Kepone to four estuarine animals. *Chesapeake Sci.* 18(2): 224–227.

Schroeder, R. E. & W. H. Leigh. 1965. The life history of *Ascocotyle packycystis* sp. n., a trematode (Digenea: Heterophyidae) from the raccoon in south Florida. *J. Parasitol.* 51(4):594–599.

Schwartz, F. J. 1961. Fishes of Chincoteague and Sinepuxent Bays. *Am. Midl. Nat.* 65(2):384–408.

Scotton, L. N., R. E. Smith, N. S. Smith, K. S. Price & D. P. DeSylva. 1973. *Pictorial Guide to Fish Larvae of Delaware Bay with Information and Bibliographies Useful for the Study of Fish Larvae.* College Marine Studies, Univ. of Delaware, Delaware Bay Report Series 7. 206 pp.

Seba, D. B. 1970a. Pesticide bioassay: physical/chemical and biological effects of dieldrin on teleosts. Ph.D. dissertation, Univ. of Miami, FL. 116 pp.

_____. 1970b. Pesticide bioassay: physical/chemical and biological effects of dieldrin on teleosts. *Diss. Abstr.* 31B:2102.

Sekavec, G. B. 1974. Summer foods, length-weight relationship, and condition factor of juvenile ladyfish, *Elops saurus* Linnaeus, from Louisiana coastal streams. *Trans. Am. Fish. Soc.* 103(3):472–476.

Seligman, E. B., Jr. 1951. *Cyprinodon variegatus riverendi* (Poey) and other aquatic notes. *Aquarium* 20(9): 234–236.

Sethi, R. P. 1960. Osteology and phylogeny of oviparous cyprinodont fishes (Order of Cyprinodontiformes). Ph.D. thesis, Univ. of Florida, Gainesville. 275 pp.

Sievers, A. M. 1969. Comparative toxicity of *Gonyaulax monilata* and *Gymnodinium breve* to annelids, crustaceans, molluscs and a fish. *J. Protozool.* 16(3):401–404.

Simpson, D. G. and G. Gunter. 1956. Notes on habitats, systematic characters and life histories of Texas salt water Cyprinodontes. *Tulane Stud. Zool.* 4(4):115–134.

Smith, H. M. 1892. Notes on a collection of fishes from the Lower Potomac River, Maryland. *Bull. U.S. Fish Comm.* (1890)10:63–72.

_____. 1907. *The Fishes of North Carolina.* N.C. Geol. Econ. Surv. 2. 453 pp.

Sogandares-Bernal, F. & J. F. Bridgman. 1960. Three *Ascocotyle* complex trematodes (Heterophyidae) encysted in fishes from Louisiana, including the description of a new genus. *Tulane Stud. Zool.* 8(2):31–39.

_____ & R. Lumsden. 1964. The heterophyid trematode *Ascocotyle (A.) leighi* Burton, 1956, from the hearts of certain poeciliid and cyprinodont fishes. *Z. Parasitenkd.* 24:3–12.

Springer, V. G. & K. D. Woodburn. 1960. An ecological study of the fishes of the Tampa Bay area. *Fla. Board Conserv., Mar. Lab. Prof. Pap. Ser.* No. 1, 104 pp.

Stevenson, M. M. & T. M. Buchanan. 1973. An analysis of hybridization between the cyprinodont fishes *Cyprinodon variegatus* and *C. elegans*. *Copeia* 1973(4):682–692.

Storer, D. H. 1846. A synopsis of the fishes of North America. *Mem. Am. Acad. Arts Sci.* 2:253–550.

Tabb, C. D. & R. B. Manning. 1961. A checklist of the flora and fauna of northern Florida Bay and adjacent brackish waters of the Florida mainland collected during the period July, 1957, through September, 1960. *Bull. Mar. Sci. Gulf Caribb.* 11:552–649.

Tagatz, M. E., P. W. Borthwick, G. H. Cook & D. L. Coppage. 1974. Effects of ground applications of malathion on salt-marsh environments in northwestern Florida. *Mosq. News* 34(3):309–315.

_____, _____ & J. Forester. 1975. Seasonal effects of leached mirex on selected estuarine animals. *Arch. Environ. Contam. Toxicol.* 3(3):371–383.

_____, _____, J. M. Ivey & J. Knight. 1976. Effects of leached mirex on experimental communities of estuarine animals. *Arch. Environ. Contam. Toxicol.* 4(4):435–442.

Truitt, R. V., A. B. Barton & H. W. Fowler. 1929. The fishes of Maryland. *Md. Conserv. Dep. Conserv. Bull.* 3. 120 pp.

Wade, R. A. 1968. Ecology of juvenile tarpon, with special attention to the effects of dieldrin on two associated species, *Cyprinodon variegatus* and *Poecilia latipinna*. Ph.D. dissertation, Univ. of Miami, FL. 166 pp.

_____. 1969. Ecology of juvenile tarpon, with special attention to the effects of dieldrin on two associated species, *Cyprinodon variegatus* and *Poecilia latipinna*. *Diss. Abstr.* 29B:2962.

Walsh, G. E., L. H. Bahner & W. B. Horning. 1980. Toxicity of textile mill effluents to freshwater and estuarine algae, crustaceans and fishes. *Environ. Pollut.* Series A. 21: 169–179.

Warlen, S. M. 1964. Some aspects of the life history of *Cyprinodon variegatus* Lacépède 1803, in southern Delaware. M.S. thesis, Univ. of Delaware. 40 pp.

Weis, P. & J. S. Weis. 1976. Abnormal locomotion associated with skeletal malformations in the sheepshead minnow, *Cyprinodon variegatus*, exposed to malathion. *Environ. Res.* 12:196–200.

Westman, J. R. & K. Compton. 1959. Responses of salt marsh killifishes to certain environmental changes and to malathion. *Proc. 46th Annu. Meet. N.J. Mosquito Exterm. Assoc.*:116–123.

Wickler, W. 1959. Weitere Untersuchungen über Haftfaden an teleostier-Eiern, speziell an *Cyprinodon variegatus* Lacépède, 1803. *Zool. Anz.* 163(3/4):90–107.

Williams, E. H., Jr. 1972. *Oodinium cyprinodontorum* Lawler (Dinoflagellida) on *Fundulus similis* (Baird and Girard) and *Cyprinodon variegatus* Lacépède from the Gulf of Mexico. *Ala. Mar. Resour. Bull.* 8:32–33.

_____ & W. A. Rogers. 1971. Two new species of *Gyrodactylus* (Trematoda: Monogenea) and a redescription

and new host record for *G. prolongis* Hargis, 1955. *J. Parasitol.* 57(4):845–847.

Yasuzumi, F. 1971. Electron microscope study of the fish spermiogenesis. *J. Nara Med. Assoc.* 22:343–355.

Zwerner, D. E. & A. R. Lawler. 1972. Some parasites of Chesapeake Bay fauna. Pp. 78–92 in M. L. Wass (ed.), *A Check List of the Biota of Lower Chesapeake Bay.* Va. Inst. Mar. Sci., Spec. Sci. Rept. No. 65. 290 pp.